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to devote its attention to some one line of work or some definite zone. Professor COOKE, of Perth, has recently pointed out the disadvantages arising from scattered and unsystematic observations in meridian circle work, and has announced that for the future all the efforts of Perth Observatory in determining stellar positions will be concentrated upon the zone from south declination thirty-one to forty-one degrees. Some such plan of co-operation and delimitation seems essential for the future progress of astronomy, and more particularly for the astronomy of the southern hemisphere; as Professor KAPTEYN has pointed out, the scope of this science to-day, with its millions of isolated units demanding study, is too vast for the combined efforts of all the observatories of the world, and he has accordingly suggested the well-known plan of limiting future studies to certain relatively small "selected areas," a plan which promises to be the best method of extending our finite knowledge in a realm that is practically infinite.

PLANETARY PHENOMENA FOR JANUARY AND FEBRUARY, 1910.

By MALCOLM MCNEILL.

PHASES OF THE MOON, PACIFIC TIME.

Last Quarter...	Jan. 3,	$5^h 27^m$ A.M.	Last Quarter..	Feb. 2,	$3^h 27^m$ A.M.
New Moon.....	" 11,	3 51 A.M.	New Moon....	" 9,	5 13 P.M.
First Quarter...	" 18,	2 21 A.M.	First Quarter..	" 16,	10 32 A.M.
Full Moon.....	" 25,	3 51 A.M.	Full Moon....	" 23,	7 36 P.M.

The Earth is in perihelion January 1st, 3^h A.M., Pacific time.

Mercury is an evening star until January 26th, 1^h A.M., when it passes inferior conjunction and becomes a morning star, remaining a morning star until early April. During the first half of January it will be a comparatively easy object for naked-eye view in the twilight soon after sunset, remaining above the horizon more than an hour, and at the time of greatest east elongation, January 10th, nearly an hour and one half after sunset. The greatest east elongation is rather a small one, as it occurs only eight days before the time of perihelion, and this makes rather a short period of visibility. After greatest elongation it moves rapidly toward inferior conjunction and then rapidly away from the Sun westward. It reaches greatest west elongation on February 19th, 26° 33′, a distance from the Sun not much less than the maximum, as it is then only eleven days from aphelion. During the latter half of February it may be seen under favorable weather conditions in the early morning twilight, as it rises somewhat more than an hour before sunrise. On February 27th it is in conjunction with *Venus,* the latter planet being 9° 18′ north of the former.

Venus is an evening star throughout January, passes inferior conjunction with the Sun on the morning of February 12th, and remains a morning star until it reaches superior conjunction on November 26th. On January 1st it sets about three and one-half hours after sunset. This interval diminishes to about three hours by the middle of the month, and at the end of the month it is only an hour and one half. It can be seen as an evening star for only a few days in February, as it rapidly nears inferior conjunction. By February 20th it rises more than an hour before sunrise and this interval is increased by half an hour before the end of the month. The period of invisibility on account of proximity to the Sun is much less than it usually is, for the reason that the planet passes the point in its orbit farthest north from the ecliptic on February 26th, and at the time of inferior conjunction is 8° north of the Sun. It is barely possible that it may be seen both as evening and morning star on the same day. During January the planet will be very bright, reaching its maximum at the end of the first week of the month. For some weeks it will be bright enough to be seen in full daylight by the naked eye.

Mars is still in good position for observation, as it remains above the horizon until after midnight throughout the two months' period, and may be easily seen in the southern or southwestern part of the heavens on any clear evening. It moves 34° eastward and 12° northward among the stars from the eastern part of *Pisces* through *Aries* to the western part of *Taurus.* On January 1st its distance from the Earth is about the same as the Earth's mean distance from the Sun, but the distance is increasing very rapidly, and by the end of February it is more than fifty per cent greater than it was in early January. Its brightness is of course greatly diminished from that it had in the early autumn of 1909, being on January 1st less than one sixth of the brightness at opposition, and it will lose more than half of this by the end of February. But it will still be as bright or brighter than a standard first magnitude star; and there will not be the slightest difficulty in recognizing it, as it is in a region where there are no bright stars, and its peculiar ruddy color will also aid in identifying it.

Jupiter rises shortly after midnight on January 1st, and at about 8h 30m P.M. on February 28th. During the latter part of the period it will be in fair position for observation in the southeastern sky late in the evening. It is in the western part of the constellation *Virgo* and moves about one degree eastward until January 30th, and during February retogrades, moves westward, about the same amount.

Saturn is very close to *Mars,* about 3° south, on January 1st, setting not long after midnight, but its eastward motion among the stars is comparatively slow, and the planets rapidly separate. By the end of February *Saturn* sets shortly after 9 P.M. It is in the constellation *Pisces* and moves about 4° eastward and northward during the two months.

Uranus passed conjunction with the Sun in December, 1909, and is a morning star, but during the greater part of the period is too near the Sun to be seen. At the end of February it rises about 2h 30m A.M. It moves about 3° eastward in the constellation *Sagittarius* during the two months.

Neptune comes to opposition with the Sun on January 8th, and is then above the horizon throughout the entire night; but it is too faint to be seen without a telescope. It moves westward slowly in the constellation *Gemini.*